

Seedling Catalog 2011 - 2012

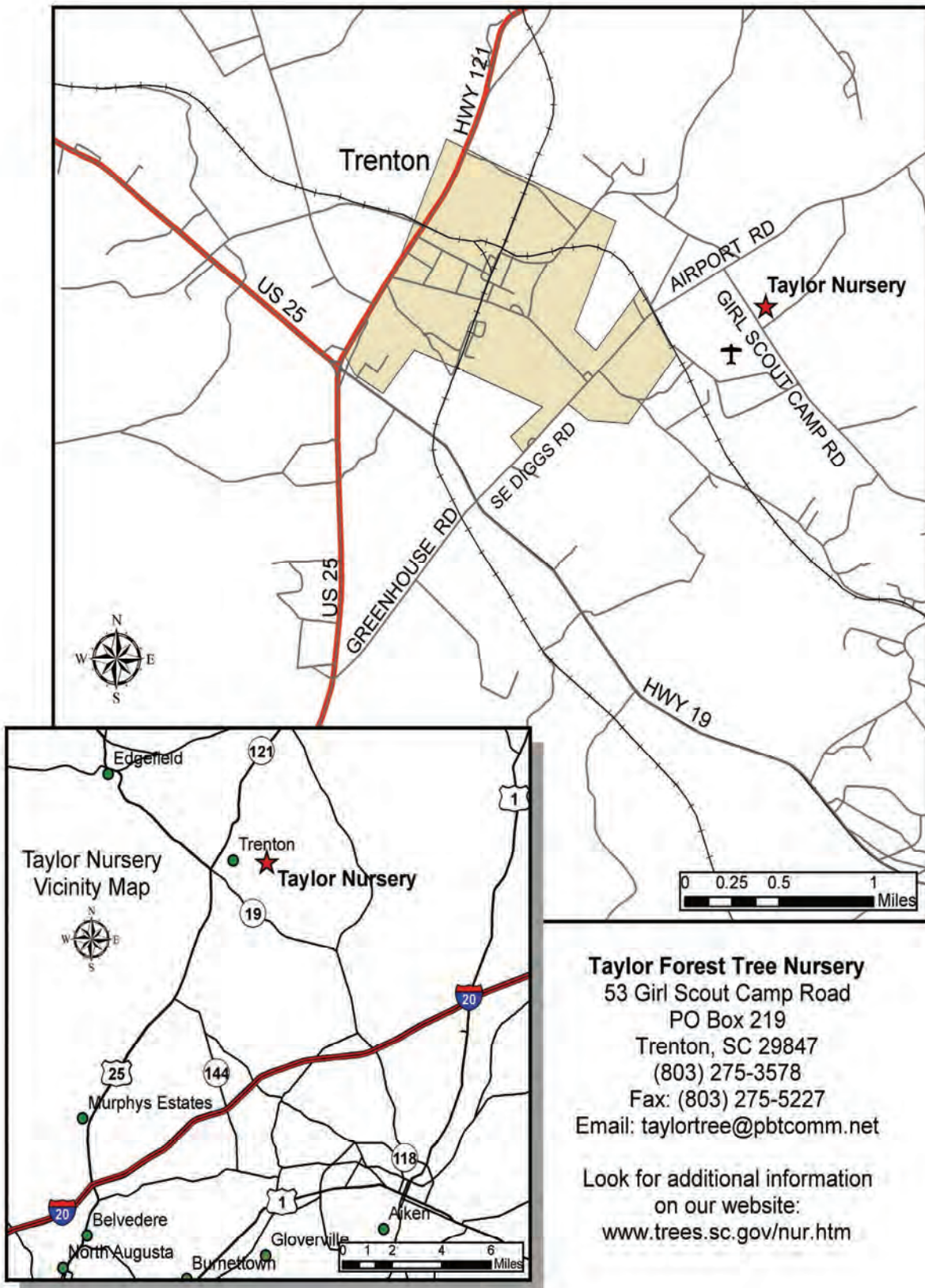


SOUTH CAROLINA TREES FOR SOUTH CAROLINIANS

www.trees.sc.gov



Map to Taylor Nursery



Taylor Forest Tree Nursery

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Trenton, SC 29847
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Look for additional information
on our website:
www.trees.sc.gov/nur.htm

Seedling Catalog

South Carolina Trees for South Carolinians

The South Carolina Forestry Commission has grown and distributed over 2.5 billion forest tree seedlings since we began operating in 1928. It is the Forestry Commission's mission to provide high quality improved seedlings for the landowners of South Carolina. We also provide a wide variety of species and products to meet the ever-changing needs of large and small landowners to include wildlife plantings, windbreaks, streamside buffers, longleaf pine-wiregrass ecosystem restoration, wetland mitigation/restoration, and rooted cuttings and seedlings for Christmas trees.



Our bareroot and containerized seedlings are grown and picked-up at our Taylor Nursery near Edgefield, South Carolina. UPS shipping is also available for all species.

The South Carolina Forestry Commission hopes you are satisfied with your seedlings. If you would like to contact us feel free to call us at (803) 275-3578 Monday through Friday between the hours of 8 AM and 4:30 PM. Also, contact us at taylortree@pbtcomm.net. Further information on our products and services is available on our web page at www.trees.sc.gov/nur.htm.



NOTE: THERE WILL BE NO OUT-OF-STATE SALES UNTIL A SURPLUS DECLARED BY SCFC STATE FORESTER. PLEASE CONTACT NURSERY FOR DETAILED INFORMATION.

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CONIFERS - BAREROOT SEEDLING Descriptions

Loblolly Pine, (*Pinus taeda*)

80–120 feet tall

The leading commercial species in the southern US and SC. Medium to large tree. Ranges from 16 to 30 inches in diameter. One of the fastest growing pines, thrives on a variety of sites in SC, but grows best in fine textured soils with deep surface layers and plenty of moisture. Not recommended for sites with sands over 3 feet deep.



Loblolly Pine, Coastal 2nd Generation

From a mixture of seed collected from all the tested families in our 2nd generation Coastal Loblolly pine seed orchard. Improved growth, straightness and fusiform resistance over wild stand and 1st generation collections. Recommended for most sites in the coastal plain of SC, and bordering piedmont counties.

Loblolly Pine, Coastal 2nd Generation, Best Family

A premier selection from our seed orchard chosen for maximum wood production without compromising rust resistance. Recommended for most sites in the coastal plain and bordering piedmont counties. Not recommended for sands over 3 feet deep.

NEW — Loblolly Pine, Coastal 3rd Generation

These seedlings result from the first collection of seed from the SC Forestry Commission's 3rd generation coastal loblolly seed orchard. This is a bulk, seed orchard mix of 13 selections that represent a dramatic improvement over our 2nd generation orchard selections for volume growth, fusiform rust resistance, and form. Note – Due to the young age of this orchard, these seedlings are in very limited quantity and they do not represent all orchard selections in equal proportion.

Loblolly Pine, Piedmont, 2nd Generation

From a mixture of seed collected from all the tested families in our 2nd generation Piedmont Loblolly pine seed orchard. Improved growth, straightness and fusiform resistance over wild stand and 1st generation collections. Recommended for most sites in the piedmont of SC, north of US Hwy. #1.

Loblolly Pine, Piedmont, 2nd Generation, Best Family

A premier selection from our seed orchard chosen for maximum wood production without compromising rust resistance. Most sites in the piedmont. North of US Hwy. #1 recommended.



NEW — Loblolly Pine, Piedmont 3rd Generation

These seedlings result from the first collection of seed from the SC Forestry Commission's 3rd generation piedmont loblolly seed orchard. This is a bulk, seed orchard mix of 13 selections that

represent a dramatic improvement over our 2nd generation orchard selections for volume growth, fusiform rust resistance, and form. Note – Due to the young age of this orchard, these seedlings are in very limited quantity and they do not represent all orchard selections in equal proportion.

Longleaf Pine (*Pinus palustris*)

80–120 feet tall

Distinctive pine species with a long, clear bole, open crown, long needles and a large silvery bud. Produces high quality timber and pine straw. An excellent species for wildlife. Stays in a low “grass stage” until the root collar reaches 1” in diameter then begins vigorous height growth. Very resistant to fire, insect and disease damage. Best sites are where sand is at least 3 feet deep. Grows well in the sand hills and flat woods of the coastal plain of SC.



Shortleaf Pine, 1st Generation (*Pinus echinata*)

80-100 feet tall

A native pine of South Carolina, shortleaf has seen a 90% decline in occurrence since the 1960's. Still an important timber tree, a mature shortleaf has a long, clear bole with a narrow, pyramidal crown. Its natural range extends from the mountains to the upper coastal plain. Shortleaf prefers full sunlight. It grows in either pure or mixed pine/hardwood stands. This shortleaf seed source is from progeny tested seed orchards.

Virginia Pine, 1st Generation (*Pinus virginiana*)

40-70 feet tall

A small to medium-sized tree that grows naturally in the upper piedmont of SC. Prefers full sunlight and grows on a variety of sites, but best on well-drained, loamy soils. Grows poorly on sandy soil without additional moisture and nutrition. Because its branches commonly extend to the ground, it makes an excellent hedge or screen. Seed is eaten by a variety of wildlife.



Virginia Pine, Christmas Tree Variety

40-70 feet tall

Superior seedlings selected and grown for SC Christmas tree growers. Same site recommendation as 1st generation Virginia pine. Requires professional pruning, pesticide applications and ornamental care to keep a Christmas tree appearance.



White Pine, 2 & 3 yr old (*Pinus strobus*)

80-120 feet tall

Distinctive bluish-green needles and a full appearance when sheared. A superior seedling for Christmas tree growers. Numerous low branches make a good windbreak and screen. Grows naturally and best in the upper piedmont of SC. Not recommended for midlands or coastal plain.

**Baldcypress (*Taxodium distichum*)**

100-150 feet tall

A coastal plain species known for quality timber. Found naturally in river bottoms and swampy areas



characterized by frequent and prolonged flooding. Can be grown on many upland soils and is a popular choice in cities and urban areas as an ornamental or shade tree.

Eastern Red Cedar, 1 and 2 yr old (*Juniperus virginiana*)

40-60 feet tall

A hardy, long-lived native tree that is preferred by some as a traditional Christmas tree. Makes an excellent windbreak or screen. Grows slowly to moderately on most sites but prefers full sun and well-drained sites. Not recommended for planting near apple trees or orchards as it is a host for the Apple Cedar Rust disease.

HARDWOOD - BAREROOT SEEDLING Descriptions

Ash, Green (*Fraxinus pennsylvanica*)

60-80 feet tall

A moderately fast-growing tree with excellent wood quality. Grows best along streams and wet bottoms, but can grow on dry sites.



the midlands and the low country of SC. Will grow along streams and coves in the piedmont, but best in direct sunlight.

Oak, Live (*Quercus virginiana*)

40-50 feet tall

Slow growing with a distinctive wide crown and low, large, spreading branches. Tree is often wider than it is tall. Foliage is evergreen. Requires full sunlight and grows well in the coastal plain, producing large quantities of acorns. Tolerates salt spray. Often found growing near the beach. Not recommended for planting in the piedmont; prone to ice damage.

**Crabapple, Southern (*Malus augustifolia*)**

20-30 feet tall

A small, moderately fast-growing tree. Produces small, sour apples popular with a variety of wildlife. Grows in full sun to partial shade on most sites except wet areas. Produces showy flowers in the spring. Does well in urban settings.

**Oak, Northern Red (*Quercus rubra*)**

60-90 feet tall

A medium to large tree that is moderately fast-growing. Prefers moist, well drained upland soils. Can tolerate some shade, but prefers full sunlight. An excellent shade tree, more common in the piedmont and mountains of SC. Produces good quality wood and large amounts of acorns.

**Dogwood, Flowering (*Cornus florida*)**

30 feet tall

A small tree commonly used as an ornamental and wildlife food species. Small white flowers in March-April produce shiny red seeds that mature in Sept.-Oct. Prefers moist, well-drained soil and is shade tolerant.

**Oak, Cherrybark (*Quercus falcate* var. *pagodaefolia*)**

80-120 feet tall

The largest southern oak species, it has the best wood quality among red oaks. Moderate to rapid growing. Grows best on rich loamy soils in

Oak, Sawtooth (*Quercus acutissima*)

40-60 feet tall

Medium-sized, fast-growing tree with wide crown. Produces large acorns in 7-10 years. An excellent tree for wildlife and a good shade tree. Prefers full sunlight on upland soils, but does well on most sites in SC. Not recommended on wet sites.

HARDWOOD - BARERoot SEEDLING Descriptions (cont.)

Oak, Sawtooth, Gobbler

(*Quercus acutissima* var. *gobbler*)

40-60 feet tall

A variety of Sawtooth Oak. Produces very small acorns preferred by wild turkeys.

Oak, Swamp Chestnut (*Quercus michauxii*)

60-80 feet tall

A medium to large tree that is slow growing. Prefers moist sites including well drained sandy loam and silty clay flood plains along streams.



Oak, White (*Quercus alba*)

80-100 feet tall

A large, slow-growing tree with good quality timber. Produces many large acorns and makes an excellent shade tree. Grows throughout SC on many sites, but prefers well-drained soils and uplands. Does not do well in deep sand and swamps.



Oak, Willow (*Quercus phellos*)

50-80 feet tall

Medium to large tree that has a moderate to rapid growth rate. Often planted in urban settings. Produces good quality wood and the smallest acorns of any of the oaks. Occurs naturally in wet bottom lands, but grows throughout SC. Prefers direct sunlight.



Persimmon (*Diospyros virginiana*)

45-60 feet tall

A small to medium-sized tree. Slow to moderate growth rate. Produces a plum-like fruit popular with wildlife. Grows on a variety of sites and prefers full sunlight.



Plum, Chickasaw (*Prunus augustifolia*)

12-20 feet tall

A small, multi-stemmed tree found in dense thickets along roadsides and fence rows. Produces a small, edible fruit used to make jellies and jams. Grows on most well-drained sites and prefers full sunlight.



Redbud, Eastern, (*Cercis canadensis*)

25-40 feet tall

A small, shrubby tree with showy red flowers in the spring. Seeds are eaten by a variety of birds. Does well in shady under-story.



Sycamore (*Platanus occidentalis*)

80-120 feet tall

Very fast growing tree that reaches a large size. Grows best on river bottoms or low slopes. Good on most sites, except swamps or dry sand hills. Prefers direct sunlight. Has a white, mottled bark that peels off naturally as it matures.



Walnut, Black (*Juglans nigra*)

90-120 feet tall

A high value timber tree that produces edible nuts. Good weed control and care recommended for the first several years after planting. Rich, well drained soils and stream bottoms are the best sites. Prefers direct sunlight. Slow growing.



SEEDLING CARE & HANDLING

- Unload seedlings immediately upon delivery.
- Mend any holes in the bag with tape.
- Provide ventilation between bags while stored.
- Protect against freezing and direct sun.
- Storage longer than ten days is not recommended.
- Open bag only to remove trees, re-close tightly.
- Do not allow roots to dry during planting.



KEEP SEEDLINGS COOL AND MOIST UNTIL PLANTED !!!

PALES WEEVIL CONTROL TREATMENT is available for the treatment of the *pales* weevil on pine seedlings. *Pales* weevil treatment is only needed for seedlings that will be planted on land where pine trees have been harvested since July 1 of the same year. The weevils come to feed on the limbs and slash after logging and then lay eggs beneath the bark of stumps and roots. Adults feed on the young seedlings. Treatment for *pales* weevil is not recommended on Longleaf seedlings. The *pales* weevil emerges in early spring and treatment is effective for 90 days. Therefore, seedlings being treated for *pales* weevil should be picked up for planting after February 1st to prevent damage during the highest risk period.

CONTAINERIZED SEEDLING Descriptions

Longleaf Pine (*Pinus palustris*) 80–120 feet tall

Distinctive pine species with a long, clear bole, open crown, long needles and large silvery bud. Produces high quality timber and pine straw. Excellent species for wildlife. Stays in a low “grass stage” until the root collar reaches 1” in diameter, then begins vigorous height growth. Very resistant to fire, insect and disease damage. Best sites are where sand is at least 2 1/2 - 3 feet deep. Grows well in the sand hills and flat woods of the coastal plain of SC. Improved and natural stand seedlings are available.



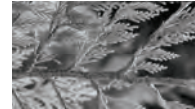
Atlantic Whitecedar (*Chamaecyparis thyoides*) 40-60 feet tall

A native evergreen commonly planted as an ornamental or for wetland mitigation projects. Can be used as a visual screen and hedge. Lumber is very light and durable and has a variety of uses. Grows on a variety of soils, but prefers sunny sites with fertile soils.



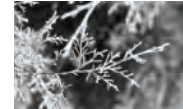
Leyland Cypress (rooted cuttings) 40-60 feet tall

A hybrid of Monterey cypress and Alaska cedar, produced by rooted cuttings in shade house operations. Natural conical shape, dark green color, very fast growing. Makes an excellent Christmas tree. Also, good for windbreaks and screens. Grows on a variety of sites.



Carolina Sapphire (rooted cuttings) 40-60 feet tall*

A variety of Arizona cypress developed in cooperation with Clemson University for Christmas tree production in SC. Rooted in shade house facilities. Conical shape and bluish-green foliage. Makes an excellent Christmas tree. Also, good for windbreaks and screens. Can be planted on a variety of sites in SC.



Clemson Greenspire (rooted cuttings) 40-60 feet tall*

A variety of Arizona cypress developed in cooperation with Clemson University for Christmas tree production in SC. Rooted in shade house facilities. Conical shape and green foliage. Makes an excellent Christmas tree. Also, good for windbreaks and screens. Can be planted on a variety of sites in SC.



Wiregrass - Also called pineland threeawn. One of the most common grasses in the southern flat woods and dry sand hills of SC. A common under story in Longleaf pine forest. Provides important cover for many birds (like quail), reptiles and small mammals. Also serves as an important food source for gopher tortoises. Reduces land management cost by improving the effectiveness of prescribed fires. Increases natural pine regeneration while reducing diseases affecting tree growth and survival. A fast growing species, it regenerates quickly after fire. Depends on regular summer burning in order to stimulate flowering and seed production.



***NOTE: The difference between Carolina Sapphire and Clemson Greenspire is the color, texture and fragrance of the foliage.**

BE FIREWISE

The National Fire Protection Association's (NFPA)

Firewise Communities program encourages local solutions for wildfire safety by involving homeowners, community leaders, planners, developers, firefighters, and others in the effort to protect people and property from the risk of wildfire. The program is co-sponsored by the USDA Forest Service, the US Department of the Interior, and the National Association of State Foresters.



To save lives and property from wildfire, NFPA's Firewise Communities program teaches people how to adapt to living with wildfire and encourages neighbors to work together and take action to prevent losses. We all have a role to play in protecting ourselves and each other from the risk of wildfire.

Firewise landscaping involves various plants in the landscape which will reduce a home's vulnerability to wildfire. The goal is to develop a landscape that offers the best fire protection and enhances the beauty of the property.

There are no fire-proof plants, but some are more fire resistant than others. A Firewise plant has some fire resistance and may have some of the following characteristics:

- Usually deciduous with broad, thick leaves
- Stems and leaves not resinous, oily, or waxy
- High moisture content
- Easy to maintain and prune
- Open branch pattern
- Drought resistant, requiring less irrigation
- Have less accumulated debris and fewer dead branches

The location of plants in your yard should be carefully planned. The arrangement, spacing, and density of plants that or are planted around the house can be more crucial than what species are planted. Proper maintenance is also vital to remove excess debris and help trees retain their fire-resistant characteristics. Therefore, keep the plants in your landscape well pruned, thinned, and maintained.

Of the trees we sell the following would be Firewise: Green Ash, Crabapple, Dogwood, Oaks, Persimmon, Plum, Redbud, Sycamore, and Black Walnut.

Additional information on Firewise can be found on the South Carolina Forestry Commission's website www.trees.sc.gov or the Firewise website www.firewise.org.

Trees and Shrubs for Wildlife Food and Cover

Summer Foods for Wildlife

Chickasaw Plum

Fall Foods for Wildlife

Flowering Dogwood

Eastern Red Cedar

Persimmon

Crabapple

Oaks

Walnuts

Pines

Winter Foods for Wildlife

Eastern Red Cedar

Persimmon

Winter Cover for Wildlife

Eastern Red Cedar

Pines

Leyland Cypress

Atlantic Whitecedar

Carolina Sapphire

Clemson Greenspire

Trees and Shrubs for Hummingbirds & Butterflies

Crabapple

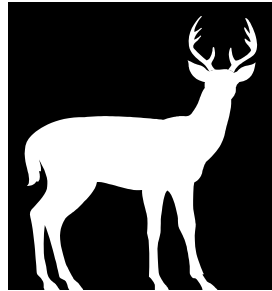
Chickasaw Plum

Redbud

Persimmon

Large Game Food

- Sawtooth and Gobbler Oak produce nuts about age seven
- Cherrybark and Willow Oak are fast growers
- White Oak and Swamp Chestnut Oak produce large acorn crops
- Live Oak is a good acorn producer in the coastal plain
- Other Oaks also do well
- Crabapple
- Persimmon



Tree and Shrub Species for Different Regions/Uses in South Carolina



Sandhills and Other Infertile Soils

Longleaf pine
Wiregrass
Chickasaw Plum
Virginia Pine
Eastern Red Cedar

Good For Planting in the Shade or Under Other Trees

Flowering Dogwood
Redbud

Coastlines (resistant to salt spray)

Live Oak
Loblolly Pine

Very Wet, Swampy Sites

Baldcypress
Atlantic Whitecedar
Sweetgum

Good Trees in an Urban Setting.

Large

Loblolly pine
White Oak
Willow Oak
Cherrybark & Red Oaks
Baldcypress
Sycamore

Good Trees in an Urban Setting.

Small

Flowering Dogwood
Redbud
Crabapple

Makes Good Christmas Tree

(also, makes a good screen)

Leyland Cypress
White Pine
Virginia Pine
Clemson Greenspire
Carolina Sapphire
Eastern Red Cedar



Bareroot Seedling Price List

Pines	Seedling Price Per Unit			Seedlings per Box for UPS Shipping
	Per 10	Per 100	Per 1,000	
Loblolly Pine, 2nd Generation Coastal	\$10	\$25	\$53	500
Loblolly Pine, 2nd Generation Coastal Best Family	\$11	\$28	\$60	500
Loblolly Pine, 3rd Generation Coastal	\$13	\$33	\$70	500
Loblolly Pine, 2nd Generation Piedmont	\$10	\$25	\$53	500
Loblolly Pine, 2nd Generation Piedmont Best Family	\$11	\$28	\$60	500
Loblolly Pine, 3rd Generation Piedmont	\$13	\$33	\$70	500
Longleaf Pine	\$19	\$47	\$100	250
Shortleaf Pine, 1st Generation	\$10	\$25	\$52	500
Virginia Pine, 1st Generation	\$9	\$21	\$45	250
Virginia Pine, Christmas Tree Variety	\$10	\$25	\$55	250
White Pine 2-0	\$17	\$42	\$90	250
White Pine 3-0	\$20	\$52	\$110	50
A \$3/thousand discount will apply for orders of over 100,000 pine bareroot seedlings.				
Hardwoods & Other Species	Seedling Price Per Unit			Seedlings per Box for UPS Shipping
	Per 10	Per 100	Per 1,000	
Ash, Green	\$30	\$100	\$300	50
Baldcypress	\$30	\$100	\$300	50
Cedar, Eastern Red	\$30	\$100	\$300	500
Cedar, Eastern Red 2-0	\$33	\$110	\$320	50
Crabapple, Southern	\$30	\$100	\$300	50
Dogwood	\$30	\$100	\$300	50
Oak, Cherrybark	\$30	\$100	\$300	50
Oak, Live	\$30	\$100	\$300	50
Oak, Northern Red	\$30	\$100	\$300	50
Oak, Sawtooth	\$30	\$100	\$300	50
Oak, Sawtooth, Gobbler	\$30	\$100	\$300	50
Oak, Swamp Chestnut	\$30	\$100	\$300	50
Oak, White	\$30	\$100	\$300	50
Oak, Willow	\$30	\$100	\$300	50
Persimmon	\$30	\$100	\$300	50
Plum, Chickasaw	\$30	\$100	\$300	50
Redbud	\$30	\$100	\$300	50
Sycamore	\$30	\$100	\$300	50
Walnut, Black	\$30	\$100	\$300	50

**KEEP SEEDLINGS COOL
AND MOIST UNTIL PLANTED !!!**

Containerized Seedlings	Seedlings per Unit	Cost per Unit	Cost per Additional Unit over 25	Seedlings per box for UPS Shipping
Atlantic Whitecedar	200/box	\$44/box		200
Carolina Sapphire	18/tray	\$25/tray	\$20/tray	18, 36, or 54
Clemson Greenspire	18/tray	\$25/tray	\$20/tray	18, 36, or 54
Leyland Cypress	18/tray	\$25/tray	\$20/tray	18, 36, or 54
Longleaf Pine, Improved *	200/box	\$38/box		200
Longleaf Pine, Natural Stand*	200/box	\$36/box		200
Wiregrass	200/box	\$30/box		200

* Improved Longleaf Pine seedlings are from seed collected from our Longleaf seed orchard. Natural Stand Longleaf seedlings are from seed collected from planted pine plantations on our Sand Hill State Forest and Savannah River Site.

***Limit of 200,000 on Natural Stand Containerized Longleaf.
Limit of 100,000 on Improved Containerized Longleaf.**

Important! A storage fee of \$2.00 per box per month will be charged for containerized longleaf seedling stored beyond December 31.



For best survival, containerized longleaf pine seedlings should be planted in the fall and early winter when there is adequate soil moisture. Taylor Nursery stores boxed containerized seedlings inside the seedling cooler until they are picked up by the customer to protect the seedlings from weather extremes, such as freeze damage due to low temperatures. However, long-term storage in the cooler is not recommended and we strongly encourage customers to pick up their containerized longleaf seedlings by mid-December.

UPS SHIPPING

- Boxes of 10 are shipped separately at \$16.50 per box anywhere in NC, SC and GA.
- All other boxes are shipped separately at \$25.00 per box anywhere in NC, SC and GA.
- Hardwoods vary in size but usually only 25-50 will fit in a 12 x 12 x 48 or 8 x 8 x 43 box.
- Pines are more compact with up to 500 per box.
- The right hand column of the price list shows how many may fit in a box, but vary by species and from year to year.
- All species are packed in separate boxes and shipped UPS Ground. Box size and numbers are subject to change without notice.
- Shipping UPS will usually deliver in SC, NC, and GA, in one day. Other states may take longer. Shipping to other states must be arranged in advance. Shipping large numbers of hardwoods or shipping overnight or two-day out of state can be VERY EXPENSIVE.
- No more seedlings shipped by UPS after March 1, 2012.

ALL REQUESTS FOR REFUNDS MUST BE IN WRITING VIA
LETTER OR E-MAIL AND RECEIVED BEFORE NOVEMBER 15TH.
ALL ORDERS PLACED AFTER NOVEMBER 15TH ARE NON-
REFUNDABLE!

NO OUT-OF-STATE SALES UNTIL SURPLUS DECLARED BY STATE
FORESTER. PLEASE CONTACT NURSERY FOR DETAILED
INFORMATION.

ALL SEEDLINGS NOT SHIPPED BY UPS
WILL BE PICKED UP AT TAYLOR NURSERY

SEEDLINGS TO BE PICKED UP AT TAYLOR

Bareroot Pine Seedlings

- Seedlings to be picked up at Taylor Nursery are packed in paper seedling bags
- Longleaf pine 250 or 500 per bag
- Virginia pine & white pine, 2 yr., 250 per bag
- Eastern Red Cedar 1 yr. are 500 per bag
- Eastern Red Cedar 2 yr. are 50 per bag
- White Pine 3 yr. are 50 per bag
- Other pines usually 500 to 1,000 per bag
- Seedling bags are 35" long x 24" wide with a 12" gusset
- Seedling bags are folded over and strapped
- Weights vary from 20 to 60 lbs. each



Bareroot Hardwood Seedlings

- Hardwoods and other species are usually packed either 10 or 50 per bag.
- The seedlings are often large and bulky with the tops sticking out of the bag and may be up to 36" or longer.
- Hardwood bags take up a lot more space than the pine bags.

Containerized Seedlings

- Leyland Cypress, Clemson Greenspire and Carolina Sapphire are picked up in trays of 18 that are about 12" x 24" and cannot be stacked. The other species are packed 200 per box.

Distribution of Containerized Seedlings will start October 17th 2011, and run through December 31st, 2011. All containerized seedlings should be picked up and planted before December 31st for optimal growth. The South Carolina Forestry Commission will not be responsible for seedling quality after this date.

Planting Instructions for Longleaf Pine

Longleaf pine can be successfully planted if the proper care and techniques are applied. Thousands of acres have been successfully planted in South Carolina in recent years on public and private lands. However, special care beyond that required for planting loblolly is necessary for success. These requirements are: a quality seedling, special handling between lifting and planting, a well prepared site, favorable weather, proper planting techniques and follow-up measures after planting when needed.

The following steps are considered essential for the successful establishment of longleaf pine.

A well-prepared site is critical to longleaf survival. Longleaf is very intolerant to competition in its early stages. Grasses such as native wiregrass and coastal bermuda are very tough competition. Herbicides and/or mechanical site preparation are frequently used to control competition prior to the establishment of longleaf pine. Consult with a registered forester to determine the most efficient and cost effective site preparation for the area you plan to plant.

The process of successfully planting longleaf pine begins with selecting a quality seedling. Containerized and bareroot are the two types of longleaf seedlings available. The biggest difference between these two types is cost and survivability. Containerized seedlings cost more but are more forgiving as to how they are handled and planted and give much better survival over a range of conditions. Bareroot longleaf seedlings have a lower cost and can be planted successfully but require careful attention to detail when handling and planting. On average seedling survival of containerized longleaf is nearly double that of bareroot longleaf seedlings. In general, planting containerized longleaf seedlings will give you a much better chance of success when establishing longleaf pine.

Landowners are encouraged to order longleaf seedlings as soon after July 1 as possible. Longleaf seedlings are in high demand across the South and both containerized and bareroot seedlings sell out quickly.

The next step is careful handling between the nursery and the field. Bareroot longleaf seedlings should be planted within 1 week of lifting from the nursery. For this reason we recommend coordinating directly with the nursery for pick-up. Containerized seedlings can be easily stored at 34 degrees for weeks and for shorter times at room temperature. Protect the

seedlings from temperature extremes during transit and while planting. Avoid planting during hot, dry weather. Bareroot seedlings are normally planted December through March and containerized can be planted in mid-October through March. Having all of your seedlings in the ground before Christmas greatly increases your chances of a successful planting.

Proper planting technique is critical to the survival of longleaf pine seedlings. Proper planting technique requires proper planting depth, a straight taproot, and adequate soil compaction around the seedling.

Bareroot seedlings should be planted at a depth so that after soil has settled the bud is at or slightly below the surface. Soil settlement will vary by soil type and degree of site prep. Bareroot seedlings should not be root pruned as this will negatively effect survival. To increase chances of survival of bareroot seedlings, machine planting is recommended.

Containerized seedlings should be planted at a depth so that after the soil has settled the top of the media plug and the bud are above the surface. On scalped rows or wet sites, at least 1 ½ inches of the plug should be exposed above the soil's surface. Do not plant containerized seedlings so that the plug is completely covered by soil! The best survival rates are achieved when containerized seedlings are properly hand planted.

Spacing and number per acre to plant will vary with landowner objective. General planting recommendations range from 400 to 600 seedlings per acre. Survival of 300 or more well-spaced free-to-grow seedlings is required for cost-share plantings.

Additional treatments after planting may not be necessary on well-prepared sites. Planted areas should be checked until grass stage is broken for possible brown spot or excessive competition. If either of these occurs, control measures such as herbicide application may be needed.

For more information about the successful establishment of longleaf pine visit The Longleaf Alliance website at <http://www.longleafalliance.org>.



Planting Instructions for Leyland Cypress, Clemson Greenspire and Carolina Sapphire

Handling: Protect from wind damage when transporting. Container seedlings can dry out quickly if left in the sun. Keep containers in the shade and water daily until planted.

Planting: Hole should be 6-8 inches deep, 4-5 inches wide. Carefully loosen the rootball. Leave a slight depression around base of planted seedling for better water accumulation. Inspect the planting site. If there is no moisture in the soil do not plant. Soil moisture is the most important factor to consider when planting containerized seedlings. The Forestry Commission recommends mid October through December.

Spacing: For Christmas trees, space 4-6 feet between trees and rows. For windbreaks, space 10-12 feet between trees and rows. Best results are achieved by at least two staggered rows.

Watering: Do not allow newly planted trees to dry out. Use a heavy mulch if water is not available. Drip irrigation is ideal.

Fertilization: Fertilize conservatively during early spring and mid-summer. Use a complete fertilizer, such as 10-10-10. Begin by using one tablespoon per seedling per application. Observe plant response and adjust accordingly.

Hand Planting Instructions for Hardwoods

Seedlings can be planted using a round-point shovel in a hole wide enough to accommodate the root system (10 in. wide by 10 in. deep) in mineral soil. The seedling should be planted no deeper than grown in the nursery. That is, the root collar shall be planted at ground line.

The shoot and root should be planted vertically aligned, with no lateral roots exposed. The lateral roots should be spread in a natural manner in the center of the planting hole.

The planting hole should be closed with the planting tool and the soil firmly packed around the seedling's roots to eliminate air pockets.

Seedlings should not be removed from planting bag until after planting hole is opened and then no more than one seedling at a time should be removed to help prevent roots from drying. Do not plant when surface of soil is frozen. Do not prune the roots to fit the hole. Only remove the occasional very long root.



What To Consider When Selecting Urban Trees

Soil - Physical soil factors, especially the degree of compaction, are commonly overlooked when selecting trees but likely have the greatest impact on tree survival, growth, and health. If the soil is very compact, select trees that tolerate low soil oxygen levels and be sure to loosen the soil around the planting hole. Soil pH - degree of acidity or alkalinity - is also important as it affects the availability of nutrients and the activity of soil microorganisms. Determine the soil pH of your site and choose a tree species that grows well in that range.

Moisture - Either too much or too little water will limit tree growth. Determine the depth of the water table, preferably during the cool wet season, by digging several holes two to three feet deep and waiting three to four hours. If no water appears in the holes, any tree can be planted. If water accumulated, select species that tolerate wet sites (that is, low soil oxygen). If the water is less than 18 inches below the surface, plant small or medium-sized trees, as the root systems of large trees will likely be too shallow to provide adequate support. (On excessively dry sites, certain maintenance approaches may be required.)

Light - Determine the number of hours of direct sun the planting site receives in summer, since different tree species require differing amounts of sunlight. Trees requiring full sun (like most large-maturing trees) need at least six hours of direct sun. Those suited to mostly shaded to partially sunny sites (like flowering dogwood) will adapt to three to six hours of direct sun.

Space - Be aware of above-ground conflicts such as overhead wires, buildings, signs, other trees, etc. that would restrict unobstructed tree growth. Select trees that will have a mature size or form that will fit within the space available. Underground space is critical for sufficient root system development and tree health. Root systems can be very extensive, spreading a distance two times the height of the tree or more. Yet, most of the roots will be in the top eight to ten inches of the soil. Once your planting location has been chosen, and before you dig the tree hole, call your local utility locator company to avoid breaking lines while digging. This is a free service and they will indicate if there are any utilities near or at your planting site.

Tree Size and Location - Will the space adequately accommodate the tree you would like to plant? Mature height, crown spread, trunk flare, and root space are all important factors to consider before planting. Know what the tree will look like as it nears maturity.

Crown Form - The shape of tree crowns varies with different species and varieties of trees. Select trees with specific crown forms to accomplish certain landscape objectives or to fit the available above-ground space.

Shade - Trees provide a greater cooling effect than man-made structures because not only are the sun rays blocked, but water is added to the air through transpiration. High, wide-crowned trees with deciduous leaves are the best providers of shade.

Maintenance and Health Issues - Some tree types are more "problem-free" than others. Determine if the tree being considered has messy fruit or particularly large leaves that must be cleaned up. Is branch structure such that it requires frequent pruning or leads to premature branch failure as is often the case with Bradford pear? Fast-growing trees like silver maple provide quick shade but typically have brittle wood that easily breaks in strong winds. Be aware of any insect or disease problems that will require frequent attention or lead to health problems and early tree death.

Aesthetics - Trees add beauty to the community landscape. With planning trees can be used to enhance the appearance of structures and grounds. For example, to give a site an appearance of greater depth, plant on a diagonal line outward from the front corners of the building. This is called framing. Trees planted behind the building and to the side will provide background. Trees can also add visual appeal to parks, parking lots, streets or patios.

Accents - A tree with color or some other showy feature can be used as an accent point in your landscaping picture. Don't overdo accents. For visual accent, select a tree that contrasts with the characteristic landscape in one or more of the design elements - form, size, color, or texture. The more contrasts, the stronger will be the accent.

Wildlife - Consider tree species with berries or nuts that are attractive to songbirds.

FORESTRY FACTS

- South Carolina has 13.1 million acres of forestland. This is 68% of the state's total land area.
- Hardwood timber types occupy over 54% of the state's forestland. Softwoods occupy 46%.
- South Carolina's forestland acreage remains stable, averaging 12.7 million acres since 1968.
- Forestry is #1 among manufacturing industries in jobs (90,624) and payroll (\$4.1 billion).
- The total economic impact of South Carolina's forest industry is around \$ 17 billion annually.
- South Carolina exports \$1.3 billion in forest products each year.
- Timber is the state's #1 cash crop at \$679 million annually.
- 88% of South Carolina's forests are privately owned.
- 64% of private forests are family-owned.
- The average "family forest" is 66 acres. 74% of these owners live on the land.
- The state's forests, both hardwood and softwood, are growing significantly more wood than is being harvested.
- The state's forests produce timber and jobs and serve as a backdrop for a desirable quality of life. In addition to beautiful landscapes, forests provide clean water and air, wildlife habitat, recreation, carbon storage, and soil protection.



MONEY GROWS ON TREES

- Financial analysis shows a landowner can expect up to a 13% return on investment for plantation forestry.
- Long-term projections call for an increased demand for forest products.

TREES PAY !!!

ENVIRONMENTAL BENEFITS OF TREES

- **Water quality**
- **Air quality**
- **Energy savings**
- **Wildlife habitat**
- **Recreation**



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